# CSI Country Wide Case Study Safety Strategy Discussion

# **Construction Safety Investigator**

## Instructions

# CHUBB

The objective of this tool is to provide field supervisors with information to proactively engage workers and discuss safety related concerns that they may encounter. Safety discussions should not be limited to the subject above and should pertain to the activities that workers will be involved in that may have the potential for safety related exposures.

Case Day: March 30, 2007

Accident Type: Mechanical Accident - Sewer

**Relevant laws, rules and codes may include:** 1926.21(b)(2), 1910.146, Manufacturer's instructions and recommendations

#### Case:

A 53-year-old male pipefitter for a mechanical contractor died when a storm sewer pipe and inflatable plug dislodged and struck him in the chest and abdomen.

#### **Accident Detail:**

The victim was working in a three-person crew, in a county park's lift station to replace two pumps. The water was pumped down and the decedent and a coworker went down to the bottom of the manhole to install a mechanical plug into the storm sewer pipe that drained into the lift station.

The plug was inflated and the water stopped flowing into the station. Another coworker was at the top of the 10- x 10-foot manhole monitoring the situation. The decedent and coworker installed a pump base anchor in the floor directly in front of the mechanical plug they had installed in the sewer line.

While the decedent and coworker were drilling anchor holes in the floor, the wall, sewer pipe and plug exploded into the manhole, striking both employees.

## **Reconstructive Safety Evaluation:**

- What are some of the possible causes of the accident being discussed?
- What actions could have been taken that might have prevented this accident from occurring?

### Accident Scene Conclusion:

The investigation revealed that the employees failed to read the manufacturer's installation instructions, perform head/test pressure calculations, install the pipe plug in a clean dry pipe, install shoring/bracing in front of the pipe plug to prevent dislodgement or check the calibration of the air pressure gauge and the employees were working in the danger zone.

The employees failed to address hazards associated with confined spaces and were not properly trained in the installation and use of the inflatable pipe plug. The employees were exposed to serious injury/death when the sewer pipe and plug failed.

### **Preventive Safety Measures Include:**

- Ensure workers follow all pneumatic pipe plug manufacturer's safety recommendations and other safety precautions relevant to the safe installation and use of pneumatic pipe plugs.
- Develop written confined space programs that contain specific procedures for all tasks to be performed and ensure employees follow the procedures.
- Provide workers with training in the recognition and avoidance of unsafe conditions and the required safe work practices that apply to their work environments.

#### Attendance Roster

Reference: This case was reported in the NIOSH Fatality Assessment and Control Evaluation (FACE) Program, Report #07MI024.

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